

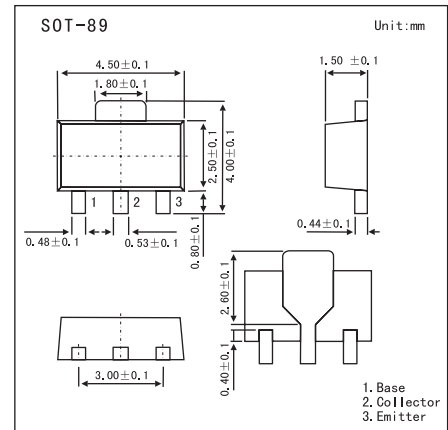
Features

High speed switching. (T_r : Typ. : 20ns at $I_c = -3A$)

Low saturation voltage, typically

(Typ. : -200mV at $I_C = -2A, I_B = -0.2A$)

Strong discharge power for inductive load and capacitance load.



Absolute Maximum Ratings $T_a = 25$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	-60	V
Collector - Emitter Voltage	V_{CEO}	-60	
Emitter - Base Voltage	V_{EBO}	-6	
Collector Current	I_C	-3	A
	I_{CP}	-6	
Collector Power Dissipation	P_C	0.5	W
Junction Temperature	T_J	150	
Storage Temperature range	T_{stg}	-55 to 150	

Electrical Characteristics $T_a = 25$

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collecto- base breakdown voltage	V_{CBO}	$I_c = -100 \mu A, I_E = 0$	-60			V
Collector- emitter breakdown voltage	V_{CEO}	$I_c = -1 mA, I_B = 0$	-60			
Emitter - base breakdown voltage	V_{EBO}	$I_E = -100 \mu A, I_C = 0$	-6			
Collector-base cut-off current	I_{CBO}	$V_{CB} = -40 V, I_E = 0$			-1.0	uA
Emitter cut-off current	I_{EBO}	$V_{EB} = -4V, I_C = 0$			-1.0	
DC current gain	h_{FE}	$V_{CE} = -2V, I_C = -100mA$	120		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -2A, I_B = -200mA$		-0.2	-0.5	V
Collector output capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0mA, f = 1MHz$		50		pF
Transition frequency	f_T	$V_{CE} = -10V, I_E = 10mA, f = 10MHz$		180		MHz

■ Typical Characteristics

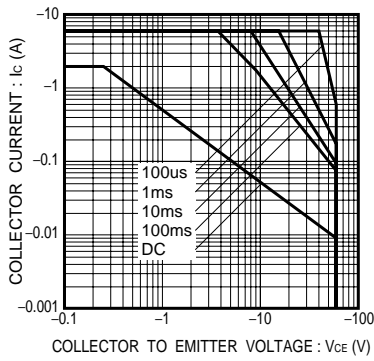


Fig.1 Safe Operating Area

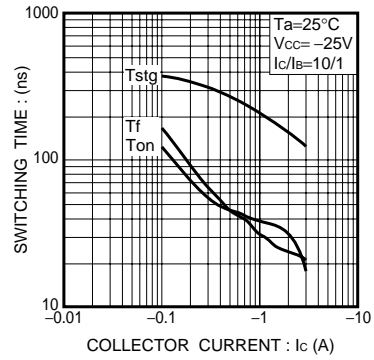


Fig.2 Switching Time

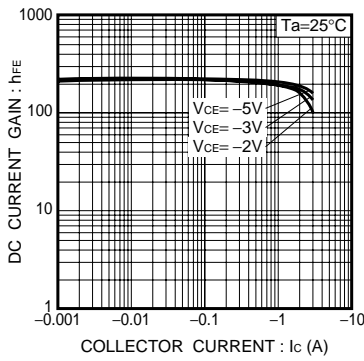


Fig.4 DC Current Gain vs. Collector Current (II)

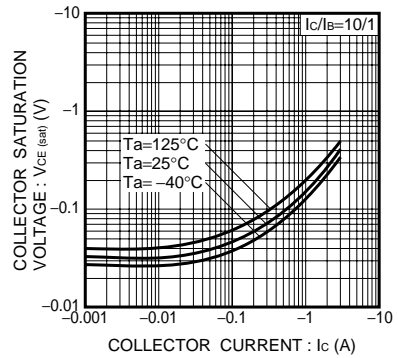


Fig.5 Collector-Emitter Saturation Voltage vs. Collector Current (I)

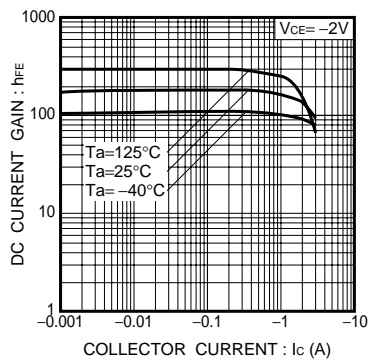


Fig.3 DC Current Gain vs. Collector Current (I)

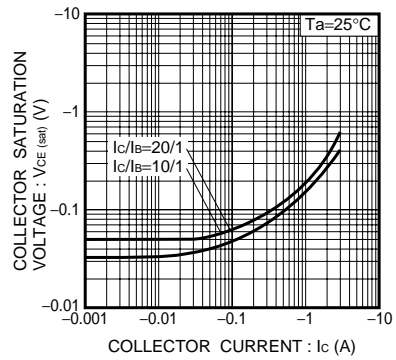


Fig.6 Collector-Emitter Saturation Voltage vs. Collector Current (II)

■ Typical Characteristics

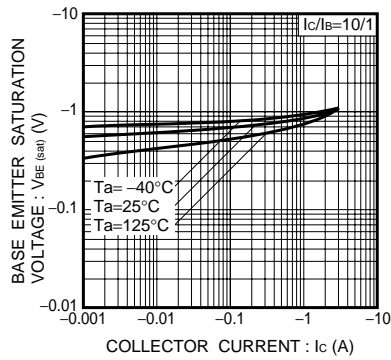


Fig.7 Base-Emitter Saturation Voltage vs. Collector Current

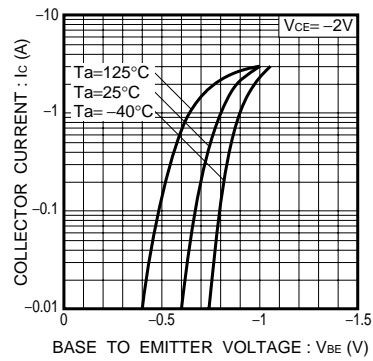


Fig.8 Grounded Emitter Propagation Characteristics

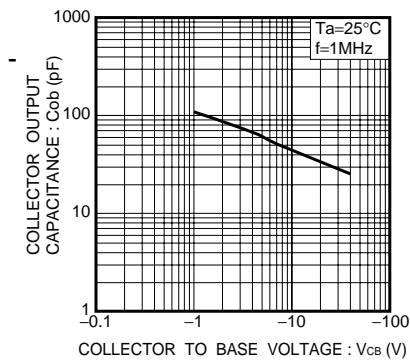


Fig.10 Collector Output Capacitance

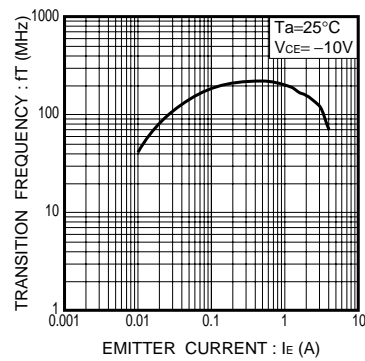


Fig.9 Transition Frequency